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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/525,751

09/22/2005

Akihiro Iimura

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10/24/2008

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP
1250 CONNECTICUT AVENUE, NW
SUITE 700
WASHINGTON, DC 20036

EXAMINER

TSAI, TSUNG YIN

ART UNIT

PAPER NUMBER

2624

MAIL DATE

DELIVERY MODE

10/24/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/525,751	Applicant(s) IIMURA ET AL.	
	Examiner TSUNG-YIN TSAI	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/28/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

Detail Action

35 USC 101 – Claim Rejection

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. In claims 3 regarding "A program for correcting", a " program" is being recited; however, computer program would reasonably be interpreted by one of ordinary skill in the art as software, per se. This subject matter is not limited to that which falls within a statutory category of invention because it is limited to a process, machine, manufacture, or a composition of matter. Software is a function descriptive material and a function descriptive material is non-statutory subject matter.

Examiner suggests that the applicant replace "a program" with – computer readable media with computer executable instructions --.

3. Claim 1 is rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps or acts to be performed, a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing (Reference the May 15, 2008 memorandum issued by Deputy Commissioner for Patent Examining Policy, John J. Love, titled "Clarification of 'Processes' under 35 U.S.C. 101"). The instant claims neither transform underlying subject matter nor positively tie to another statutory

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category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process.

35 USC 103 – Claim Rejection

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 and 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Magome et al (US Patent Number 5,489,986) in view of Nishi (US Patent Number 5,243,195).

(1) Regarding claims 1 and 3-4:

Magome et al teaches:

A method of correcting shifts in position (**figure 1 part 5 discloses correction of position by means of X, Y and Z stage**) and attitude of an object (**figure 1 part 4 disclose the object is place**) which is held by a holding member (**figure 1 part 5 disclose the stage that hold the member**) and to which fiducial mark 1 and fiducial mark 2 (**figure 9 discloses FM mark**) are applied, said method comprising the steps of:

obtaining a position data (**figure 1, column 17 discloses detecting relevant position in the horizontal plane in the x, y and rotating direction**) of

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the fiducial mark 1 (**figure 9 discloses FM mark**) by image-processing the fiducial mark 1 (**figure 9, column 25-26**);

rotating (**column 17 lines 1-30 discloses drive motor in direction and z direction, where all three direction is rotation**) the holding member (**figure 1 part 4 is the holding member**) holding the object (**figure 1 part 4**) to be held substantially by 180 degrees (**figure 1 part 5 discloses a stage that is able to move and rotate in the x, y and z direction such that rotation in 180 degree is possible. Although, the exact 180 degree is not express, this is a range that is able to be obtaining by this device. Also having the exact 180 degree is not needed since correction of position can vary and change and having a stage that can perform all angles give the user and device better range of movement for better alignment.**) in a horizontal plane (**figure 1, column 17 discloses detecting relevant position in the horizontal plane in the x, y and rotating direction**);

obtaining a position data (**figure 1, column 17 discloses detecting relevant position in the horizontal plane in the x, y and rotating direction**) of the fiducial mark 2 by image-processing the fiducial mark 2 (**figure 9 discloses FM mark**) rotated by 180 degrees (**figure 1 part 5 discloses a stage that is able to move and rotate in the x, y and z direction such that rotation in 180 degree is possible. Although, the exact 180 degree is not express, this is a range that is able to be obtaining by this device. Also having the exact 180 degree is not needed since correction of position can vary and change and**

having a stage that can perform all angle give the user and device better range of movement for better alignment); and

operating, on the basis of the position data (figure 1, column 17 discloses detecting relevant position in the horizontal plane in the x, y and rotating direction) of the fiducial mark 1 and the fiducial mark 2 (figure 9) rotated by 180 degrees (figure 1 part 5 discloses a stage that is able to move and rotate in the x, y and z direction such that rotation in 180 degree is possible. Although, the exact 180 degree is not express, this is a range that is able to be obtaining by this device. Also having the exact 180 degree is not needed since correction of position can vary and change and having a stage that can perform all angle give the user and device better range of movement for better alignment), an amount of position shift (column 1 lines 35-40 discloses alignment steps of detecting both the mark and the mark on the wafer, determining shift or deviation in the relative position between the tw2o marks as to correct the shift) from a rotational center (column 17 lines 1-30 discloses drive motor in direction and z direction, where all three direction is rotation) of the holding member (figure 1 part 4) to a center of the object (figure 1 part 4 and 5) to be held and an amount of angle shift (column 17 lines 1-35) of the object (figure 1 part 4) in a horizontal plane (figure 1, column 17 discloses detecting relevant position in the horizontal plane in the x, y and rotating direction) with respect to a fiducial line (figure 9) of the holding member (figure 1 part 4).

Magome et al does not teach where there are two fiducial marks.

However, Nishi, in the field of apparatus alignment of exposure apparatus in the x and y direction for measuring position of stage with fiducial marks, discloses in figure 2 where there are two fiducial marks.

It would have been obvious to one skill in the art at the time of the invention to employ Nishi teachings to Magome et al regarding the use of marking for proper and accuracy alignment.

The motivation to combine regarding more fiducial marks means better and accuracy alignment and positioning of the object of interest for analysis.

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Magome et al (US Patent Number 5,489,986) and Nishi (US Patent Number 5,243,195) in view of Kocher (US 2003/0228697 A1).

(1) Regarding claim 2:

Magome et al and Nishi teaches regarding to alignment by means of fiducial marks.

Magome et al and Nishi does not teach where the head is of a DNA micro-array preparing apparatus.

However, Kocher teaches DNA (**paragraph 0003 discloses DNA micro-array**) micro-array preparing apparatus (**abstract discloses apparatus calibration micro-array**).

The motivation to combine regarding proper alignment of DNA micro-array preparing apparatus with fiducial marks such that proper preparation of the array would not be wrong and contamination would not occur.

It would have been obvious to one skill in the art at the time of the invention to employ Kocher's teachings to Magome et al regarding the use of DNA micro-array.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tsung-Yin Tsai whose telephone number is (571) 270-1671. The examiner can normally be reached on Monday - Friday 8 am - 5 pm ESP.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571)272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jingge Wu/
Supervisory Patent Examiner, Art Unit 2624

/Tsung-Yin Tsai/

Examiner, Art Unit 2624

October 21, 2008